



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200

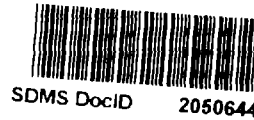
July 26, 2004

Southcentral Regional Office

717-705-4949

FAX-717-705-4930

Mr. Mike Bedard, P.E.,
Arcadis G & M, Inc.
6 Terry Drive, Suite 300
Newtown, PA 18940



Re: Hydrogeologic Report Requirements
Arcadis/Bally, [REDACTED] South
Washington Township, Berks County

Dear Mr. Bedard:

I want to review a couple of points in response to some of the discussion items from our last meeting. The following items need to be emphasized:

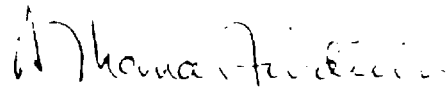
- a) Inform me when drilling, grouting and aquifer testing will occur. Call the District Office (Tom Grubb, 610 916 0100) with your schedule as well.
- b) All aquifer test data used for permitting must be derived from the finished production well, i.e. cased and grouted with screen or slotted casings (if applicable) in place. You must provide an adequate annular space around the casing(s), use a drive shoe and casing centralizers and you must grout the annular space from the bottom upward in one continuous operation. That well construction work must be completed before the aquifer test begins. Call me with questions regarding adequate annular openings, grout placement, or other well construction issues.
- c) Review Chapter 109, Section 603 of Pennsylvania's Safe Drinking Water Code regarding the location of new groundwater sources. Zone I wellhead protection areas are to be calculated using the volumetric flow equation or by using the graphs in the May 1996 compliance assistance document. There is a minimum Zone I *radius* requirement of 100 feet. Delineated Zone I areas must be shown on a plot plan of appropriate scale, and included in the hydrogeologic report that is required with the permit application. The wells must be located away from parking lots, roads, buildings, residential units, storage buildings, etc. No farming activities can occur in the Zone I area. Ensure that no septic drainfields, sewer lines, or detention basins are in the Zone I area. Provide information in the hydrogeologic report, copies of any executed deed restrictions or other information that shows the supplier's ability and willingness to control the Zone I wellhead protection area. During our meeting we discussed a well that would ideally produce 250 to 300 gpm. Using our Zone I guidance a well producing 250 gpm would require a minimum wellhead protection area radius between 110 and 380 feet depending on well construction and aquifer characteristics. Review these wellhead protection requirements with the parties involved before finalizing your well construction and testing plan.
- d) Discharge aquifer test water at a distance to prevent recirculation and to prevent masking any effects that the aquifer test may show in the monitoring network, (300 – 500 feet across strike and down dip). You must be able to eliminate recycling as a reason for any potential recharge boundary indicated in the aquifer analysis. Contact Michelle Curry (717 705 4812) to discuss the need for an approval letter if you intend to discharge test water directly into a creek.

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- e) Wells that you drill as observation points will eventually need to be converted to properly constructed (grouted annular openings and locking well caps) monitoring wells or they will need to be properly abandoned. Refer to the AWWA standard for water wells or to the Department's guidance on well abandonment for information on proper well abandonment.

Please review the outline of the information required in the hydrogeologic report that must be included in the PWS permit application. The information must be submitted in a hydrogeologic report signed and sealed by a professional geologist licensed in the Commonwealth of Pennsylvania. If you have any questions or comments, please call.

Sincerely,



H. Thomas Fridirici, P.G.
Hydrogeologist
Water Supply Management Program

cc: Toni Hemerka, Bally Borough
Alysa Suero, DRBC
Mitch Cron, US EPA

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